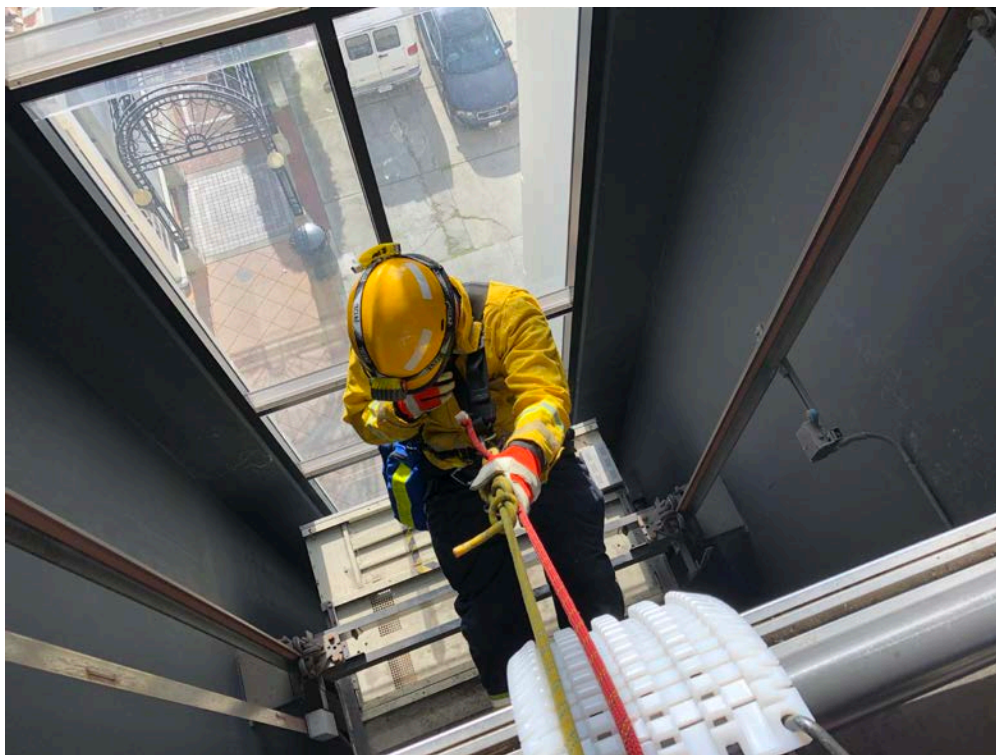


Rope Rescue Awareness-Operations-Technician

**Certification Training Standards Guide
Published September 2020**



California Department of Forestry and Fire Protection
Office of the State Fire Marshal
State Fire Training

Rope Rescue Awareness-Operations-Technician

Certification Training Standards Guide Published September 2020

This CTS guide utilizes the following NFPA standards to provide the qualifications for State Fire Training's Fire Fighter I certification:

- NFPA 1006 Technical Rescue Personnel Professional Qualifications (2017)

State Fire Training coordinated the development of this CTS guide. Before its publication, the Statewide Training and Education Advisory Committee (STEAC) and the State Board of Fire Services (SBFS) recommended this CTS guide for adoption by the Office of the State Fire Marshal (OSFM).



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State Fire Training

Mission

To enable the California Fire Service to safely protect life and property through education, training, and certification.

The California Fire Services Training and Education System

The California Fire Service Training and Education System (CFSTES) was established to provide a single statewide focus for fire service training in California. CFSTES is a composite of all the elements that contribute to the development, delivery, and administration of training for the California fire service. The authority for the central coordination of this effort is vested in State Fire Training within the Office of the State Fire Marshall with oversight provided by the State Board of Fire Services.

CFSTES facilitates, coordinates, and assists in the development and implementation of standards and certification for the California fire service.

CFSTES:

1. Administers the California Fire Academy System
1. Provides accredited courses leading to certification and approved standardized training programs for local and regional delivery
2. Administers the national accreditation process in California
3. Publishes certification training standards, course plans, and certification task books for each certified job function within the California fire service

CFSTES is a fire service system developed by the fire service, for the fire service. It is only as successful and effective as the people involved in it.

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How to Read a CTS Guide

State Fire Training develops a Certification Training Standards (CTS) Guide for a variety of job functions in the fire service such as firefighter, driver/operator, fire instructor, and company officer. The CTS guide lists the requisite knowledge and skills and the job performance requirements a person is expected to complete in order to become certified in a specific function.

Each CTS guide serves as a foundation for the certification programs recommended for adoption by the Office of the State Fire Marshal. Any certification program must be based on job-related knowledge and measurable performance standards. To master the knowledge and skills needed for specialized operations, individuals will require additional training to augment the performance standards included in the CTS guide.

Within the CTS guide, it is impossible to capture the different policies and procedures of each organization in the California fire service. Individuals aspiring to meet State Fire Training's certification training standards must do so in accordance with the codes, standards, regulations, policies, and standard operating procedures applicable within their own department or jurisdiction.

Format

Section Heading

Training standards are grouped by section headings that describe a general category. For example, the Fire Fighter I CTS guide includes the following section headings: NFPA Requirements, Fire Department Communications, Fireground Operations, and Preparedness and Maintenance.

Training Standard Title

The training standard title provides a general description of the performance requirement contained within the individual standard.

Authority

The CTS guide references each individual standard with one or more paragraphs of the corresponding National Fire Protection Association (NFPA) Professional Qualifications. This ensures that each fire service function within California's certification system meets or exceeds NFPA standards.

When California requirements exceed the NFPA standard, the CTS guide cites the Office of the State Fire Marshal as the authority and prints the corresponding information in *italics*.

Job Performance Requirements

This segment includes a written statement that describes a specific job-related task, the items an individual needs to complete the task, and measurable or observable outcomes.

Requisite Knowledge

This segment lists the knowledge that an individual must acquire in order to accomplish the job performance requirement.

Requisite Skills

This segment lists the skills that an individual must acquire in order to accomplish the job performance requirement.

Tracking Table

The tracking table documents and justifies any significant revisions to the NFPA standard that the development or validation cadres make during the development of a CTS guide.

1-1: Recognizing the Need for Support Resources

Authority

1. NFPA 1006 Technical Rescue Personnel Professional Qualifications (2017)
 - Paragraph 5.1.1

Job Performance Requirement

Recognize the need for support resources, given a specific type of rescue incident, so that a resource cache is managed, scene lighting is provided for the tasks to be undertaken, environmental concerns are managed, personnel rehabilitation is facilitated, and the support operation facilitates rescue operational objectives.

Requisite Knowledge

1. *Identify* equipment organization and tracking methods
2. *Identify* lighting resource type(s)
3. *Identify* shelter and thermal control options
4. *Identify* rehab criteria

Requisite Skills

1. Track equipment inventory
2. Identify lighting resources and structures for shelter and thermal protection
3. *Identify* rehab areas
4. *Describe managing* personnel rotations

Tracking Table

Block	Modification	Justification

1-2: Recognizing Incident Hazards and Initiating Isolation Procedures

Authority

1. NFPA 1006 Technical Rescue Personnel Professional Qualifications (2017)
 - Paragraph 5.1.2

Job Performance Requirement

Recognize incident hazards and initiate isolation procedures, given scene control barriers, personal protective equipment (PPE), requisite equipment, and available specialized resources, so that all hazards are identified, resource application fits the operational requirements, hazard isolation is considered, risks to rescuers and victims are minimized, and rescue time constraints are taken into account.

Requisite Knowledge

1. *Identify* resource capabilities and limitations
2. *Describe* types and nature of incident hazards
3. *Describe* equipment types and their use
4. *Describe* isolation terminology, methods, equipment, and implementation
5. *Identify* operational requirement concerns
6. *Describe* common types of rescuer and victim risk
7. *Describe* risk/benefit analysis methods and practices
8. *Identify* types of technical references

Requisite Skills

1. Identify resource capabilities and limitations
2. Identify incident hazards
3. *Describe how to* assess victim viability (risk/benefit)
4. *Describe* technical references
5. Place scene control barriers
6. Operate control and mitigation equipment

Tracking Table

Block	Modification	Justification

1-3: Recognizing Needed Resources for a Rescue Incident

Authority

1. NFPA 1006 Technical Rescue Personnel Professional Qualifications (2017)
 - Paragraph 5.1.3

Job Performance Requirement

Recognize needed resources for a rescue incident, given incident information, a means of communication, resources, tactical worksheets, personnel accountability protocol, applicable references, and standard operating procedures, so that references are utilized, personnel are accounted for, necessary resources are deployed to achieve desired objectives, incident actions are documented, rescue efforts are coordinated, the command structure is established, task assignments are communicated and monitored, and actions are consistent with applicable regulations.

Requisite Knowledge

1. *Describe* incident management system
2. *Describe* tactical worksheet application and purposes
3. *Describe* accountability protocols
4. *Describe* resource types and deployment methods
5. *Describe* documentation methods and requirements
6. *Describe* availability, capabilities, and limitations of rescuers and other resources
7. *Identify* communication problems and needs
8. *Identify* communications requirements, methods, and means
9. *Describe* types of tasks and assignment responsibilities
10. *Describe* policies and procedures of the agency
11. *Identify* technical references related to the type of rescue incident

Requisite Skills

1. *Describe the implementation of* an incident management system
2. *Describe how to complete* tactical worksheets
3. Evaluate incident information
4. Match resources to operational needs
5. Operate communications equipment
6. *Describe the management of* incident communications
7. Communicate in a manner so that objectives are met

Tracking Table

Block	Modification	Justification
5.1.3	Removed skill: Use reference materials	Taught in 5.1.2

1-4: Initiating a Discipline-Specific Search

Authority

1. NFPA 1006 Technical Rescue Personnel Professional Qualifications (2017)
 - Paragraph 5.1.4

Job Performance Requirement

Initiate a discipline-specific search, given hazard-specific PPE, equipment pertinent to search mission, an incident location, and victim investigative information, so that search parameters are established; the victim profile is established; the entry and exit of all people either involved in the search or already within the search area are questioned and the information is updated and relayed to command; the personnel assignments match their expertise; all victims are located as quickly as possible; applicable technical rescue concerns are managed; risks to searchers are minimized; and all searchers are accounted for.

Requisite Knowledge

1. *Describe* local policies and procedures
2. *Describe* how to operate in the site-specific search environment

Requisite Skills

1. *Determine the potential for entering, maneuvering in, and exiting* the search environment
2. Provide for and perform self-escape/self-rescue

Tracking Table

Block	Modification	Justification

1-5: Performing Ground Support Operations for Helicopter Activities

Authority

1. NFPA 1006 Technical Rescue Personnel Professional Qualifications (2017)
 - Paragraph 5.1.5

Job Performance Requirement

Perform ground support operations for helicopter activities, given a rescue scenario/incident, helicopter, operational plans, PPE, requisite equipment, and available specialized resources, so that rescue personnel are aware of the operational characteristics of the aircraft and demonstrate operational proficiency in establishing and securing landing zones and communicating with aircraft personnel until the assignment is complete.

Requisite Knowledge

1. *Identify* ground support operations relating to helicopter use and deployment
2. *Identify* operation plans for helicopter service activities
3. *Describe* type-specific PPE
4. *Describe* aircraft familiarization and hazard areas specific to helicopters
5. *Describe* scene control and landing zone requirements
6. *Identify* aircraft safety systems
7. *Describe* communications protocols

Requisite Skills

1. Provide ground support operations
2. Review standard operating procedures for helicopter operations
3. Use PPE
4. Establish and control landing zones
5. Communicate with aircrews

Tracking Table

Block	Modification	Justification

1-6: Initiating Triage of Victims

Authority

1. NFPA 1006 Technical Rescue Personnel Professional Qualifications (2017)
 - Paragraph 5.1.6

Job Performance Requirement

Initiate triage of victims, given triage tags and local protocol, so that rescue versus recovery factors are assessed, triage decisions reflect resource capabilities, severity of injuries is determined, and victim care and rescue priorities are established in accordance with local protocol.

Requisite Knowledge

1. *Describe* types and systems of triage according to local protocol
2. *Identify* resource availability
3. *Identify* methods to determine injury severity
4. *Describe* ways to manage resources
5. *Describe* prioritization requirements

Requisite Skills

1. Use triage materials, techniques, and resources
2. Categorize victims correctly

Tracking Table

Block	Modification	Justification

1-7: Assisting a Team in Operation of the Haul Line

Authority

1. NFPA 1006 Technical Rescue Personnel Professional Qualifications (2017)
 - Paragraph 5.1.7

Job Performance Requirement

Assist a team in operation of the haul line of a rope mechanical advantage system raising operation, given rescue personnel, an established rope rescue system, a load to be moved, and an anchor system, so that the movement is controlled; a reset is accomplished; the load can be held in place when needed; commands are followed in direction of the operation; and potential problems are identified, communicated, and managed.

Requisite Knowledge

1. *Describe* principles of mechanical advantage
2. *Describe* operation of a haul line in a raising operation
3. *Identify* personnel assignments
4. *Describe* operational commands

Requisite Skills

1. *Follow* operational commands
2. Identify safety concerns during raising operations

Tracking Table

Block	Modification	Justification

Section 2: Rope Rescue Operations

2-1: Sizing Up a Rescue Incident

Authority

1. NFPA 1006 Technical Rescue Personnel Professional Qualifications (2017)
 - Paragraph 5.2.1

Job Performance Requirement

Perform size up *of* a rescue incident, given background information and applicable reference materials, so that the type of rescue is determined, the number of victims is identified, the last reported location of all victims is established, witnesses and reporting parties are identified and interviewed, resource needs are assessed, search parameters are identified, and information required to develop an incident action plan is obtained.

Requisite Knowledge

1. *Assess* types of reference materials and their uses
2. *Describe* availability and capability of the resources
3. *Describe* elements of an action plan and related information
4. *Describe* relationship of size-up to the incident management system
5. *Describe* information-gathering techniques and how that information is used in the size-up process

Requisite Skills

1. *Explain* technical rescue reference materials
2. Gather information
3. Relay information
4. Use information-gathering sources

Tracking Table

Block	Modification	Justification

2-2: Inspecting and Maintaining PPE

Authority

1. NFPA 1006 Technical Rescue Personnel Professional Qualifications (2017)
 - Paragraph 5.2.2

Job Performance Requirement

Inspect and maintain hazard-specific PPE, given clothing or equipment for the protection of the rescuers, cleaning and sanitation supplies, maintenance logs or records, and such tools and resources as are indicated by the manufacturer’s guidelines for assembly or disassembly of components during repair or maintenance, so that damage, defects, and wear are identified and reported or repaired, equipment functions as designed, and preventive maintenance has been performed and documented consistent with the manufacturer’s recommendations.

Requisite Knowledge

1. *Describe* functions, construction, and operation of PPE
2. *Describe* use of recordkeeping systems of the AHJ
3. *Describe* requirements and procedures for cleaning, sanitizing, and infectious disease control
4. *Describe* use of provided assembly and disassembly tools
5. *Describe* manufacturer and department recommendations
6. *Describe* pre-use inspection procedures
7. *Describe* ways to determine operational readiness.

Requisite Skills

1. Identify wear and damage indicators for PPE
2. Evaluate operational readiness of PPE
3. Complete logs and records
4. Use cleaning equipment, supplies, and reference materials
5. Select and use tools specific to the task

Tracking Table

Block	Modification	Justification

2-3: Inspecting and Maintaining Rescue Equipment

Authority

1. NFPA 1006 Technical Rescue Personnel Professional Qualifications (2017)
 - Paragraph 5.2.3

Job Performance Requirement

Inspect and maintain rescue equipment, given maintenance logs and records, tools, and resources as indicated by the manufacturer’s guidelines, equipment replacement protocol, and organizational standard operating procedure, so that the operational status of equipment is verified and documented, all components are checked for operation, deficiencies are repaired or reported as indicated by standard operating procedure, and items subject to replacement protocol are correctly disposed of and changed.

Requisite Knowledge

1. *Describe* functions and operations of rescue equipment
2. *Describe* use of recordkeeping systems
3. *Describe* manufacturer and organizational care and maintenance requirements
4. *Describe* selection and use of maintenance tools
5. *Describe* replacement protocol and procedures
6. *Describe* disposal methods
7. *Describe* organizational standard operating procedures

Requisite Skills

1. Identify wear and damage indicators for rescue equipment
2. Evaluate operation readiness of equipment
3. Complete logs and records
4. Select and use maintenance tools

Tracking Table

Block	Modification	Justification

2-4: Demonstrating Knots, Bends, and Hitches

Authority

1. NFPA 1006 Technical Rescue Personnel Professional Qualifications (2017)
 - Paragraph 5.2.4

Job Performance Requirement

Demonstrate knots, bends, and hitches, given ropes, webbing, and a list of knots used by the agency, so that the knots are dressed, recognizable, and backed up as required.

Requisite Knowledge

1. *Describe* knot efficiency
2. *Describe* knot utilization
3. *Describe* rope construction
4. *Identify* rope terminology

Requisite Skills

1. Tie representative knots, bends, *and* hitches for the following purposes:
 - End-of-line loop
 - Midline loop
 - Securing rope around desired objects
 - Joining rope or webbing ends together
 - Gripping rope

Tracking Table

Block	Modification	Justification

2-5: Constructing a Single-Point Anchor System

Authority

1. NFPA 1006 Technical Rescue Personnel Professional Qualifications (2017)
 - Paragraph 5.2.5

Job Performance Requirement

Construct a single-point anchor system, given life safety rope and other auxiliary rope rescue equipment, so that the chosen anchor system fits the incident needs, meets or exceeds the expected load, and does not interfere with rescue operations; an efficient anchor point is chosen; the need for redundant anchor points is assessed and used as required; the anchor system is inspected and loaded prior to being placed into service; and the integrity of the system is maintained throughout the operation.

Requisite Knowledge

1. *Describe* application of knots
2. *Describe* rigging principles
3. *Describe* anchor selection criteria
4. *Describe* system safety check procedures
5. *Describe* rope construction
6. *Describe* rope rescue equipment applications and limitations

Requisite Skills

1. Select rope and equipment
2. Tie knots, *bends, and hitches as required by the AHJ*
3. Rig systems
4. Evaluate anchor points for required strength, location, and surface contour
5. Perform a system safety check

Tracking Table

Block	Modification	Justification
RS	Added bends and hitches	Better description, more accurate/all-encompassing

2-6: Constructing a Multiple-Point Anchor System

Authority

1. NFPA 1006 Technical Rescue Personnel Professional Qualifications (2017)
 - Paragraph 5.2.6

Job Performance Requirement

Construct a multiple-point anchor system, given life safety rope and other auxiliary rope rescue equipment, so that the chosen anchor system fits the incident needs, the system strength meets or exceeds the expected load and does not interfere with rescue operations, equipment is visually inspected prior to being put in service, the nearest anchor point that will support the load is chosen, the anchor system is system safety checked prior to being placed into service, the integrity of the system is maintained throughout the operation, and weight will be distributed between more than one anchor point.

Requisite Knowledge

1. *Describe the* relationship of angles to forces created in the rigging of multiple-point anchor systems
2. *Describe* safety issues in choosing anchor points
3. *Describe* system safety check methods that allow for visual and physical assessment of system components
4. *Describe* methods to evaluate the system during operations
5. *Describe* integrity concerns
6. *Describe* weight distribution issues and methods
7. *Describe* knots, bends, and hitches and their applications
8. *Describe* selection and inspection criteria for hardware and software
9. *Describe* formulas needed to calculate safety factors for load distribution
10. *Describe* concepts of static loads versus dynamic loads

Requisite Skills

1. Determine incident needs as related to choosing anchor systems
2. Select effective knots
3. Determine expected loads
4. Evaluate incident operations as related to interference concerns and setup
5. Choose anchor points
6. Perform a system safety check
7. Evaluate system components for compromised integrity

Rescue Technician

Section 3: Rope Rescue Technician

Tracking Table

Block	Modification	Justification
RS	Added bends and hitches	Better description, more accurate/all-encompassing

2-7: Conducting a System Safety Check

Authority

1. NFPA 1006 Technical Rescue Personnel Professional Qualifications (2017)
 - Paragraph 5.2.7

Job Performance Requirement

Conduct a system safety check, given a rope-rescue system and rescue personnel, so that a physical/visual check of the system is made to ensure proper rigging, a load test is performed prior to life-loading the system, and verbal confirmation of these actions is announced and acknowledged before life-loading the rope-rescue system.

Requisite Knowledge

1. *Describe* system safety check procedures
2. *Explain* construction and operation of rope rescue systems and their individual components
3. *Describe* use of PPE
4. *Describe* equipment inspection criteria
5. *Identify* signs of equipment damage
6. *Describe* principles of rigging
7. *Describe* equipment replacement criteria

Requisite Skills

1. Apply and use PPE
2. Inspect rope rescue system components for damage
3. Assess a rope rescue system for configuration
4. Secure equipment components
5. Inspect all rigging
6. Perform a system safety check

Tracking Table

Block	Modification	Justification

2-8: Placing Edge Protection

Authority

1. NFPA 1006 Technical Rescue Personnel Professional Qualifications (2017)
 - Paragraph 5.2.8

Job Performance Requirement

Place edge protection, given life safety rope or webbing traversing a sharp or abrasive edge, edge protection, and other auxiliary rope rescue equipment, so that the rope or webbing is protected from abrasion or cutting, the rescuer is safe from falling while placing the edge protection, the edge protection is secure, and the rope or webbing is securely placed on the edge protection.

Requisite Knowledge

1. *Explain* materials and devices that can be used to protect ropes or webbing from sharp or abrasive edges
2. *Describe* fall *prevention or* protection measures
3. *Identify* dangers associated with sharp or abrasive edges
4. *Describe* methods for negotiation of sharp or abrasive edges

Requisite Skills

1. Select protective devices for rope and webbing
2. Provide personnel fall *prevention or* protection while working near edges
3. Secure edge protection
4. Secure ropes or webbing in a specific location

Tracking Table

Block	Modification	Justification

2-9: Constructing a Belay System

Authority

1. NFPA 1006 Technical Rescue Personnel Professional Qualifications (2017)
 - Paragraph 5.2.9

Job Performance Requirement

Construct a belay system, given life safety rope, anchor systems, PPE, and rope rescue equipment, so that the system is capable of arresting a fall, a fall will not result in system failure, the system is not loaded unless actuated, actuation of the system will not injure or otherwise incapacitate the belayer, the belayer is not rigged into the equipment components of the system, and the system is suitable to the site and is connected to an anchor system and the load.

Requisite Knowledge

1. *Describe* principles of belay systems
2. *Describe* capabilities and limitations of various belay devices
3. *Describe* application of knots, rigging principles, and system safety check procedures

Requisite Skills

1. Select a *belay system or two-tensioned rope system (TTRS)*
2. Tie knots, *bends, and hitches*
3. Perform rigging
4. Attach to anchor system and load
5. Don and use task-specific PPE
6. Perform a system safety check

Tracking Table

Block	Modification	Justification
RKS	Added bends and hitches	Better description, more accurate/all-encompassing

2-10: Operating a Belay System

Authority

1. NFPA 1006 Technical Rescue Personnel Professional Qualifications (2017)
 - Paragraph 5.2.10

Job Performance Requirement

Operate a belay system during a lowering or raising operation, given an operating lowering or raising mechanical advantage system, a specified minimum travel distance for the load, a belay system, and a load, so that the potential fall factor is minimized, the belay device system is not actuated during operation of the primary rope rescue system, the belay system is prepared for actuation at all times during the operation, the belayer is attentive at all times during the operation, the load's position is continually monitored, and the belayer moves rope through the belay device as designed.

Requisite Knowledge

1. *Describe* application and use of belay devices
2. *Describe* proper operation of belay systems in conjunction with normal lowering and raising operations
3. *Describe* operational commands

Requisite Skills

1. *Operate* a belay system as designed
2. Tie approved knots, bends, and hitches
3. Assess system effectiveness
4. Attach a rope to a belay device
5. Don and use task-specific PPE
6. Perform a system safety check
7. Communicate belay system status

Tracking Table

Block	Modification	Justification
RK	Removed "Properly" from attach a rope to a belay device	Unnecessary
RK	Removed "Manage and" from communicate belay system status	Overlaps with #1
RK	Removed "effectively" from communicate belay system status	Unnecessary
RS	Added bends and hitches	Better description, more accurate/all-encompassing

2-11: Belaying a Falling Load

Authority

1. NFPA 1006 Technical Rescue Personnel Professional Qualifications (2017)
 - Paragraph 5.2.11

Job Performance Requirement

Belay a falling load in a high-angle environment, given a belay system and a dropped load, so that the belay line is not taut until the load is falling, the belay device is actuated when the load falls, the fall is arrested in a manner that minimizes the force transmitted to the load, the belayer utilizes the belay system as designed, and the belayer is not injured or otherwise incapacitated during actuation of the belay system.

Requisite Knowledge

1. *Describe* application and use of belay devices
2. *Describe* effective emergency operation of belay devices to arrest falls
3. *Describe* use of PPE
4. *Describe* operating procedures

Requisite Skills

1. Operate a belay system as designed
2. Tie approved knots, *bends, and hitches*
3. Use task-specific PPE
4. Recognize and arrest a falling load
5. Communicate belay system actuation

Tracking Table

Block	Modification	Justification
RS	Added bends and hitches	Better description, more accurate/all-encompassing

2-12: Constructing a Fixed Rope System

Authority

1. NFPA 1006 Technical Rescue Personnel Professional Qualifications (2017)
 - Paragraph 5.2.12

Job Performance Requirement

Construct a fixed rope system, given an anchor system, a life safety rope, and rope rescue equipment, so that the system constructed can accommodate the load, is efficient, and is connected to an anchor system and the load, and a system safety check is performed and the results meet the incident requirements for descending or ascending operations.

Requisite Knowledge

1. *Describe* knot, bend, and hitch selection
2. *Explain* calculating expected loads
3. *Explain* incident evaluation operations as related to interference concerns and setup
4. *Explain* rigging principles
5. *Describe* system safety check procedures
6. *Describe* methods of evaluating system components for compromised integrity

Requisite Skills

1. Select effective knots, bends, and hitches
2. Calculate expected loads
3. Use rigging principles
4. Evaluate incident operations as related to interference concerns and setup
5. Perform a system safety check
6. Evaluate system components for compromised integrity

Tracking Table

Block	Modification	Justification
RS	Added bends and hitches	Better description, more accurate/all-encompassing

2-13: Ascending a Fixed Rope

Authority

1. NFPA 1006 Technical Rescue Personnel Professional Qualifications (2017)
 - Paragraph 5.2.13

Job Performance Requirement

Ascend a fixed rope in a *low-angle and a high-angle* environment, given an anchored fixed rope system, a specified minimum distance for the rescuer, a system to allow ascent of a fixed rope, a structure, a belay system, a life safety harness worn by the person ascending, and PPE, so that the person ascending is secured to the fixed rope in a manner that will not allow him or her to fall; the person ascending is attached to the rope by means of an ascent control device(s) with at least two points of contact; injury to the person ascending is minimized; the person ascending can stop at any point on the fixed rope and rest suspended by his or her harness; the system will not be stressed to the point of failure; the person ascending can convert his or her ascending system to a descending system; obstacles are negotiated; the system is suitable for the site; and the objective is reached.

Requisite Knowledge

1. *Identify* task-specific selection criteria for life safety harnesses and systems for ascending a fixed rope
2. *Describe* PPE selection criteria
3. *Describe* design and intended purpose of ascent control devices utilized
4. *Explain* rigging principles
5. *Describe* techniques for high-angle environments
6. *Describe* converting ascending systems to descending systems
7. *Describe* common hazards posed by maneuvering and harnessing

Requisite Skills

1. Select and use harness, a system for ascending a fixed rope, and PPE for common environments
2. Attach the *rescuer* to the rope rescue system
3. Configure ascent control devices to form a system for ascending a fixed rope
4. Make connections to the ascending system
5. Maneuver around existing environment and system-specific obstacles
6. Convert the ascending system to a descending system while suspended from the fixed rope
7. Evaluate surroundings for potential hazards

Rescue Technician

Section 3: Rope Rescue Technician

Tracking Table

Block	Modification	Justification
	Remove rescuer from Select and use harness, a system for ascending a fixed rope	Redundant
	Replace the life safety harness with “the rescuer” in Attach the rescuer to the rope rescue system	More clear
JPR	Added “low-angle” to the JPR	They should cover both.

2-14: Descending a Fixed Rope

Authority

1. NFPA 1006 Technical Rescue Personnel Professional Qualifications (2017)
 - Paragraph 5.2.14

Job Performance Requirement

Descend a fixed rope in a *low-angle and a high-angle* environment, given an anchored fixed-rope system, a specified minimum travel distance for the rescuer, a system to allow descent of a fixed rope, a belay system, a life safety harness worn by the person descending, and PPE, so that the person descending is attached to the fixed rope in a manner that will not allow him or her to fall; the person descending is attached to the rope by means of a descent control device; the speed of descent is controlled; injury to the person descending is minimized; the person descending can stop at any point on the fixed rope and rest suspended by his or her harness; the system will not be stressed to the point of failure; the system is suitable for the site; and the objective is reached.

Requisite Knowledge

1. *Identify* task-specific selection criteria for life safety harnesses and systems for descending a fixed rope
2. *Describe* PPE selection criteria
3. *Describe the* design, intended purpose, and operation of descent control devices utilized
4. *Describe* safe rigging principles *and* techniques for high-angle environments
5. *Identify* common hazards posed by maneuvering and harnessing

Requisite Skills

1. Select and use harness, a system for descending a fixed rope, and PPE for common environments
2. Attach the rescuer to the rope rescue system
3. Make attachment of the descent control device to the rope and life safety harness
4. Operate the descent control device
5. Maneuver around existing environment and system-specific obstacles
6. Evaluate surroundings for potential hazards

Tracking Table

Block	Modification	Justification
RS	Replace “life safety harness” with “rescuer” in attach the rescuer to the rope rescue system	More clear
RS	Remove rescuer from Select and use harness, a system for ascending a fixed rope	Redundant

Rescue Technician

Section 3: Rope Rescue Technician

JPR	Added "low-angle" to the JPR	They should cover both.

2-15: Escaping from a Malfunctioning Device

Authority

1. NFPA 1006 Technical Rescue Personnel Professional Qualifications (2017)
 - Paragraph 5.2.15

Job Performance Requirement

Demonstrate the ability to escape from a jammed or malfunctioning device during a fixed rope descent in a high-angle environment, given an anchored fixed-rope system with a simulated malfunctioning descent control device, a system to allow escape from the malfunctioning device, a belay system, a life safety harness worn by the person descending, and PPE, so that the person descending is attached to the fixed rope in a manner that will not allow him or her to fall; the person descending is attached to the rope by means of a descent control device; the means for escape will allow the rescuer to escape either upward or downward from the malfunctioning descent control device; injury potential to the rescuer is minimized; the system will not be stressed to the point of failure; the system is suitable for the site; and the objective is reached.

Requisite Knowledge

1. *Identify* task-specific selection criteria for escape equipment and methods used for escape from a malfunctioning descent control device
2. *Identify* PPE selection criteria
3. *Describe the* design, intended purpose, and operation of escape systems utilized
4. *Explain* rigging principles
5. *Describe* techniques for high-angle environments
6. *Describe* common hazards posed by malfunctioning descent control devices

Requisite Skills

1. Select and use harness, a system for escaping a malfunctioning descent control device, and PPE for common environments
2. Attach the *rescuer* to the rope rescue system
3. Make attachment of the descent control device to the rope and life safety harness
4. Attach and operate the escape system to remove the rescuer from the malfunctioning descent control device while maintaining patent attachment to the fixed rope and belay
5. Use the escape system to maneuver upward or downward from the malfunctioning descent control device
6. Evaluate surroundings for potential hazards

Tracking Table

Block	Modification	Justification
	Removed "safe" from explain rigging principles	Should not be taught unsafely

Rescue Technician

Section 3: Rope Rescue Technician

RS	Replace “life safety harness” with “rescuer” in attach the rescuer to the rope rescue system	More clear
RS	Remove rescuer from Select and use harness, a system for ascending a fixed rope	Redundant

2-16: Constructing a Lowering System

Authority

1. NFPA 1006 Technical Rescue Personnel Professional Qualifications (2017)
 - Paragraph 5.2.16

Job Performance Requirement

Construct a lowering system, given an anchor system, life safety rope(s), a descent control device, and auxiliary rope rescue equipment, so that the system can accommodate the load, is efficient, is capable of controlling the descent, is capable of holding the load in place or lowering with minimal effort over the required distance, and is connected to an anchor system and the load.

Requisite Knowledge

1. *Describe* capabilities and limitations of various descent control devices
2. *Identify* capabilities and limitations of various lowering systems
3. *Describe* application of knots, bends, and hitches; rigging principles; and system safety check procedures

Requisite Skills

1. Tie knots, bends, and hitches
2. Perform rigging
3. Attach to descent control device, anchor system, and load
4. Perform a system safety check

Tracking Table

Block	Modification	Justification
RS	Added bends and hitches	Better description, more accurate/all-encompassing

2-17: Operating and Directing a Lowering and a Raising System

Authority

1. NFPA 1006 Technical Rescue Personnel Professional Qualifications (2017)
 - Paragraph 5.2.17

Job Performance Requirement

Operate and direct a lowering and a raising system in a low-angle and a high-angle environment, given rescue personnel, an established lowering system, a specified minimum travel distance for the load, and a load to be moved, so that the movement is controlled, a knot is passed, the load can be held in place when needed, the system is converted to a raise, operating methods do not stress the system to the point of failure, rope commands are used to direct the operation, and potential problems are identified, communicated, and managed.

Requisite Knowledge

1. *Describe* application and use of descent control devices
2. *Describe* capabilities and limitations of various lowering systems in a *low- and high-angle* environment
3. *Identify* knot, bend, and hitch selection
4. *Describe* operation of lowering systems in a low- and a high-angle environment
5. *Describe* operation of raising systems in a *low- and high-angle environment*
6. *Identify* personnel assignments
7. *Identify* operational commands

Requisite Skills

1. *Operate a lowering and a raising system*
2. *Convert a lowering operation to a raising operation*
3. *Pass a knot in a lowering and a raising operation*
4. *Direct the operation*
5. Use operational commands
6. Analyze system efficiency
7. Manage movement of the load in a *low- and a high-angle* environment
8. Identify safety concerns in a *low- and a high-angle* environment
9. Perform a system safety check

Tracking Table

Block	Modification	Justification
RK	Added Identify knot, bend, and hitch selection	Necessary to support JPR
RS	Changed “personnel” to “the operation” in Direction the operation	Direct personnel to do what? Unclear. Better supports JPR

Rescue Technician

Section 3: Rope Rescue Technician

JPR	Added low-angle	Need to know how to do both
JPR	Added a knot is passed	It is an important skill not covered elsewhere.
JPR	Added the system is converted to a raise	It is an important skill not covered elsewhere.
JPR	Changed to Operate and direct a lowering and raising system	They construct and direct but do not actually operate, and that is necessary.

2-18: Constructing a Simple Rope Mechanical Advantage System

Authority

1. NFPA 1006 Technical Rescue Personnel Professional Qualifications (2017)
 - Paragraph 5.2.18

Job Performance Requirement

Construct a simple rope mechanical advantage system, given life safety rope, carabiners, pulleys, rope grab devices, and auxiliary rope rescue equipment, so that the system constructed can accommodate the load, is efficient, and is connected to an anchor system and the load.

Requisite Knowledge

1. *Describe* principles of mechanical advantage
2. *Identify* capabilities and limitations of various simple rope mechanical advantage systems
3. *Describe* application of knots, *bends*, and *hitches*
4. *Describe* rigging principles
5. *Describe* system safety check procedures

Requisite Skills

1. Select rope and equipment
2. Tie knots, *bends*, and *hitches*
3. Choose and rig systems
4. Attach the mechanical advantage system to the anchor system and load
5. Perform a system safety check

Tracking Table

Block	Modification	Justification
RS	Added bends and hitches	Better description, more accurate/all-encompassing

2-19: Operating and Directing a Team in Operating a Simple Rope Mechanical Advantage System

Authority

1. NFPA 1006 Technical Rescue Personnel Professional Qualifications (2017)
 - Paragraph 5.2.19

Job Performance Requirement

Operate and direct a team in the operation of a simple rope mechanical advantage system in a low-angle and a high-angle raising operation, given rescue personnel, an established rope rescue system incorporating a simple rope mechanical advantage system, a specified minimum travel distance for the load, a load to be moved, and an anchor system, so that the movement is controlled, a reset is accomplished, the load can be held in place when needed, operating methods do not stress the system to the point of failure, commands are used to direct the operation, and potential problems are identified, communicated, and managed.

Requisite Knowledge

1. *Describe* principles of mechanical advantage
2. *Identify* capabilities and limitations of various simple rope mechanical advantage systems and *low-angle and high-angle* raising operations
3. *Describe* *knot, bend, and hitch* selection
4. *Describe* correct operation of simple rope mechanical advantage systems
5. *Identify* personnel assignments
6. *Identify* operational commands

Requisite Skills

1. *Operate the simple rope mechanical advantage system*
2. Direct personnel
3. Use operational commands
4. Analyze system efficiency
5. Identify safety concerns
6. Perform a system safety check

Tracking Table

Block	Modification	Justification
	Removed “effectively” from direct personnel	Should always be effective
	Added <i>Describe</i> <i>knot, bend, and hitch</i> selection	Necessary to support JPR

2-20: Constructing a Compound Rope Mechanical Advantage System

Authority

1. NFPA 1006 Technical Rescue Personnel Professional Qualifications (2017)
 - Paragraph 5.2.20

Job Performance Requirement

Construct a compound rope mechanical advantage system, given a load, an anchor system, life safety rope, carabiners, pulleys, rope grab devices, and rope rescue equipment, so that the system constructed accommodates the load and reduces the force required to lift the load, operational interference is factored and minimized, the system is efficient, a system safety check is completed, and the system is connected to an anchor system and the load.

Requisite Knowledge

1. *Describe* incident needs as related to choosing compound rope systems
2. *Describe* elements of efficient design for compound rope systems
3. *Describe* knot, bend, and hitch selection
4. *Describe* methods for reducing excessive force to system components
5. *Describe* evaluation of incident operations as related to interference concerns and setups
6. *Describe* rope commands
7. *Explain* rigging principles
8. *Identify* system safety check procedures
9. *Describe* methods of evaluating system components for compromised integrity

Requisite Skills

1. Determine incident needs as related to choosing compound rope systems
2. *Tie* knots, bends, and hitches
3. Calculate expected loads
4. Evaluate incident operations as related to interference concerns and setups
5. Perform a system safety check
6. Evaluate system components for compromised integrity

Tracking Table

Block	Modification	Justification
	Change “determination of” to “describe” incident needs as related to choosing compound rope systems	Reduces excess wording, same meaning
	Change “select” to “tie” knots, added bends and hitches	Better description, more accurate/all-encompassing

2-21: Constructing a Complex Rope Mechanical Advantage System

Authority

1. *Office of the State Fire Marshal*

Job Performance Requirement

Construct a complex rope mechanical advantage system, given a load, an anchor system, life safety rope, carabiners, pulleys, rope grab devices, and rope rescue equipment, so that the system constructed accommodates the load and reduces the force required to lift the load, operational interference is factored and minimized, the system is efficient, a system safety check is completed, and the system is connected to an anchor system and the load.

Requisite Knowledge

1. *Describe incident needs as related to choosing complex rope systems*
2. *Describe elements of efficient design for complex rope systems*
3. *Describe knot, bend, and hitch selection*
4. *Describe methods for reducing excessive force to system components*
5. *Describe evaluation of incident operations as related to interference concerns and setups*
6. *Describe rope commands*
7. *Explain rigging principles*
8. *Identify system safety check procedures*
9. *Describe methods of evaluating system components for compromised integrity*

Requisite Skills

1. *Determine incident needs as related to choosing complex rope systems*
2. *Tie knots, bends, and hitches*
3. *Calculate expected loads*
4. *Evaluate incident operations as related to interference concerns and setups*
5. *Perform a system safety check*
6. *Evaluate system components for compromised integrity*

Tracking Table

Block	Modification	Justification
	Added JPR	Not covered in NFPA

2-22: Directing the Operation of a Compound Rope Mechanical Advantage System

Authority

1. NFPA 1006 Technical Rescue Personnel Professional Qualifications (2017)
 - Paragraph 5.2.21

Job Performance Requirement

Direct the operation of a compound rope mechanical advantage system in a high-angle environment, given a rope rescue system incorporating a compound rope mechanical advantage system and a load to be moved, and a specified minimum travel distance for the load, so that a system safety check is performed; a reset is accomplished and the movement is controlled; the load can be held in place when needed; operating methods do not stress the system to the point of failure; operational commands are clearly communicated; and potential problems are identified, communicated, and managed.

Requisite Knowledge

1. *Identify* methods to determine incident needs
2. *Describe* types of interference concerns
3. *Describe* rope commands
4. *Describe* system safety check protocols
5. *Describe* procedures for continued evaluation of system components for compromised integrity
6. *Identify* common personnel assignments and duties
7. *Describe* methods for controlling a load's movement
8. *Identify* system stress issues during operations
9. *Describe* management methods for common problems

Requisite Skills

1. Determine incident needs
2. Evaluate incident operations as related to interference concerns
3. Complete a system safety check
4. Continually evaluate system components for compromised integrity
5. Direct personnel
6. Communicate commands
7. Analyze system efficiency
8. Manage load movement
9. Identify concerns

Rescue Technician

Section 3: Rope Rescue Technician

Tracking Table

Block	Modification	Justification
RK	common and critical commands	Encompassed above in Describe rope commands
RS	Removed “effectively”	Should always be done effectively

2-23: Directing the Operation of a Complex Rope Mechanical Advantage System

Authority

- *Office of the State Fire Marshal*

Job Performance Requirement

Direct the operation of a complex rope mechanical advantage system in a high-angle environment, given a rope rescue system incorporating a complex rope mechanical advantage system and a load to be moved, and a specified minimum travel distance for the load, so that a system safety check is performed; a reset is accomplished and the movement is controlled; the load can be held in place when needed; operating methods do not stress the system to the point of failure; operational commands are clearly communicated; and potential problems are identified, communicated, and managed.

Requisite Knowledge

1. *Identify methods to determine incident needs*
2. *Describe types of interference concerns*
3. *Describe rope commands*
4. *Describe system safety check protocols*
5. *Describe procedures for continued evaluation of system components for compromised integrity*
6. *Identify common personnel assignments and duties*
7. *Describe methods for controlling a load's movement*
8. *Identify system stress issues during operations*
9. *Describe management methods for common problems*

Requisite Skills

1. *Determine incident needs*
2. *Evaluate incident operations as related to interference concerns*
3. *Complete a system safety check*
4. *Continually evaluate system components for compromised integrity*
5. *Direct personnel*
6. *Communicate commands*
7. *Analyze system efficiency*
8. *Manage load movement*
9. *Identify concerns*

Tracking Table

Block	Modification	Justification
	Added JPR	Not covered in NFPA

2-24: Negotiating an Edge While Attached to a Rope Rescue System

Authority

1. NFPA 1006 Technical Rescue Personnel Professional Qualifications (2017)
 - Paragraph 5.2.22

Job Performance Requirement

Negotiate an edge while attached to a rope rescue system during a *low-angle* and a high-angle lowering and raising operation, given a rope rescue system, a specified minimum travel distance for the rescuer, life safety harnesses, an edge to negotiate during the lower and raise, and specialized equipment necessary for the environment, so that risk to the rescuer is minimized, the means of attachment to the rope rescue system is secure, and all projections and edges are negotiated while minimizing risks to the rescuer or equipment.

Requisite Knowledge

1. *Describe* techniques and practices for negotiating existing projections and edges along the travel path while suspended from operating rope-based lowering and raising mechanical advantage systems and common hazards imposed by those projections and edges

Requisite Skills

1. Select and use harness and PPE for common environments
2. Attach the *rescuer* to the rope rescue system
3. Maneuver across existing projections and an edge along the travel path
4. Evaluate surroundings for potential hazards

Tracking Table

Block	Modification	Justification
	Added low-angle	Should cover both
	Removed “rescuer” from “rescuer harness”	Redundant
	Replaced “life safety harness” with “rescuer”	More clear

2-25: Accessing, Assessing, Stabilizing, Packaging, and Transferring Victims

Authority

1. NFPA 1006 Technical Rescue Personnel Professional Qualifications (2017)
 - Paragraph 5.2.23

Job Performance Requirement

Access, assess, stabilize, package, and transfer victims, given diagnostic and packaging equipment and an actual or simulated EMS agency, so that rescuers and victim are protected from hazards, the victim's injuries or illnesses are managed, and the victim is delivered to the appropriate EMS provider with information regarding the history of the rescue activity and victim's condition.

Requisite Knowledge

1. *Describe* victim and scene assessment methods
2. *Explain* victim treatment, immobilization, and packaging methods
3. *Describe* medical information management and communication methods

Requisite Skills

1. Use victim immobilization, packaging, and treatment methods
2. Provide victim transfer reports, both verbally and in written format

Tracking Table

Block	Modification	Justification
	Removed appropriate to the situation	Should not be using inappropriate methods

2-26: Operating and Directing a Litter-Lowering and Litter-Raising System

Authority

1. NFPA 1006 Technical Rescue Personnel Professional Qualifications (2017)
 - Paragraph 5.2.24

Job Performance Requirement

Operate and direct a litter-lowering and litter-raising system in a low-angle environment, given rescue personnel, (a) litter tender(s), an established lowering/mechanical advantage system, a specified minimum travel distance for the load, and a victim packaged in a litter to be moved, so that the litter is attached to the lowering/raising and belay systems; movement is controlled; litter tender(s) are used to manage the litter during the lower and raise; the litter can be held in place when needed; operating methods do not stress the system to the point of failure; rope commands are used to direct the operation; and potential problems are identified, communicated, and managed.

Requisite Knowledge

1. *Describe the application and use of lowering and mechanical advantage system in the low-angle environment*
2. *Describe the capabilities and limitations of various lowering and mechanical advantage systems in a low-angle environment*
3. *Describe litter-tender functions and limitations in the low-angle environment*
4. *Describe the management of a litter in a low-angle environment during raises and lowers*
5. *Identify personnel assignments*
6. *Identify operational commands*

Requisite Skills

1. *Operate a litter-lowering and litter-raising system*
2. *Direct operation*
3. *Use operational commands*
4. *Analyze system efficiency*
5. *Manage movement of the litter in a low-angle environment*
6. *Identify safety concerns in a low-angle litter operation*
7. *Perform a system safety check*

Tracking Table

Block	Modification	Justification
	Changed "Direct personnel" to "Direct operation"	Direct them to do what? More clear
	Changed "high-angle" to "low-angle"	Appears to be typo; now it reflects the JPR.

2-27: Operating as a Litter Tender

Authority

1. NFPA 1006 Technical Rescue Personnel Professional Qualifications (2017)
 - Paragraph 5.2.25

Job Performance Requirement

Operate as a litter tender in a low-angle lowering or raising operation, given a rope rescue system, a specified minimum travel distance for the litter tender, life safety harnesses, litters, bridles, and specialized equipment necessary for the environment, so that risks to victims and rescuers are minimized, the means of attachment to the rope rescue system is secure, and the terrain is negotiated while minimizing risks to equipment or persons.

Requisite Knowledge

1. *Identify* task-specific selection criteria for life safety harnesses
2. *Describe* PPE selection criteria
3. *Describe* variations in litter design and intended purpose
4. *Describe* low-angle litter attachment principles
5. *Describe* techniques and practices for low-angle environments
6. *Identify* common hazards imposed by the terrain

Requisite Skills

1. Select and use harness and PPE for common environments
2. Attach the *rescuer* to the rope rescue system
3. Maneuver across the terrain
4. Manage the litter while suspended from the rope rescue system
5. Evaluate surroundings for potential hazards

Tracking Table

Block	Modification	Justification
	Removed “rescuer” from rescuer harness	Redundant
	Changed “life safety harness” to “rescuer”	More clear

2-28: Directing a Litter-Lowering or Litter-Raising Operation

Authority

1. NFPA 1006 Technical Rescue Personnel Professional Qualifications (2017)
 - Paragraph 5.2.26

Job Performance Requirement

Direct a litter-lowering or litter-raising operation in a high-angle environment, given rescue personnel, an established lowering/mechanical advantage system, a specified minimum travel distance for the load, a victim packaged in a litter to be moved, and a means for negotiating edges and projections along the travel path, so that the litter is attached to the lowering/raising and belay systems, an edge is negotiated during a lower and a raise; tag lines are used to manage the litter during the lower and raise; the litter can be held in place when needed; operating methods do not stress the system to the point of failure; rope commands are used to direct the operation; and potential problems are identified, communicated, and managed.

Requisite Knowledge

1. *Describe* application and use of lowering and mechanical advantage system in the high-angle environment
2. *Describe* capabilities and limitations of various lowering and mechanical advantage systems in a high-angle environment
3. *Describe the* use of tag lines for management of litter position during high-angle lowers and raises
4. *Identify* personnel assignments
5. *Identify* operational commands
6. *Describe litter positioning options (vertical and horizontal)*

Requisite Skills

1. Direct *operation*
2. Use operational commands
3. Analyze system efficiency
4. Manage movement of the litter in a *high-angle* environment
5. Identify safety concerns in a *high-angle* environment
6. Perform a system safety check

Tracking Table

Block	Modification	Justification
	Change “personnel” to “operation”	Direct them to what? More clear
	Change “low-angle” to “high-angle”	Appears to be typo; aligns with JPR

2-29: Terminating a Technical Rescue Operation

Authority

1. NFPA 1006 Technical Rescue Personnel Professional Qualifications (2017)
 - Paragraph 5.2.27

Job Performance Requirement

Terminate a technical rescue operation, given an incident scenario, assigned resources, and site safety data, so that rescuer risk and site safety are managed, scene security is maintained and custody transferred to a responsible party, personnel and resources are returned to a state of readiness, recordkeeping and documentation occur, and postevent analysis is conducted.

Requisite Knowledge

1. *Identify* incident command functions and resources
2. *Describe* hazard identification and risk management strategies
3. *Describe* logistics and resource management
4. *Describe* personnel accountability systems
5. *Describe* AHJ-specific procedures or protocols related to personnel rehab

Requisite Skills

1. Recognize hazards
2. Analyze risk
3. Use site control equipment and methods
4. Use data collection and management systems
5. Use asset and personnel tracking systems

Tracking Table

Block	Modification	Justification
	Changed Hazard recognition to recognize hazards	Wasn't a verb
	Changed Risk analysis to analyze risk	Wasn't a verb
	Deleted "of" from "use of"	Wasn't a verb

Section 3: Rope Rescue Technician

3-1: Directing a Team in Operating a Rope Rescue System

Authority

1. NFPA 1006 Technical Rescue Personnel Professional Qualifications (2017)
 - Paragraph 5.3.1

Job Performance Requirement

Direct a team in the operation of a rope rescue system to remove a victim stranded on or clinging to a natural or manmade feature in a high-angle environment, given a victim stranded on or clinging to a feature and a means of removal of the victim to the ground or other safe area, so that risks to victims and rescuers are minimized, injury to the victim is minimized, the means of attachment to the rope rescue system is maintained, and the victim is removed and brought to a safe area for transfer to EMS.

Requisite Knowledge

1. *Describe system safety check protocol*
2. *Describe techniques and systems for safe transfer of stranded victims from a natural or manmade feature*
3. *Describe various techniques for handling stranded victims without inducing a fall*

Requisite Skills

1. *Perform system safety checks*
2. Reduce hazards for rescuers and victims
3. Determine condition of the stranded victim
4. Select and construct systems for rapid removal of stranded victims from natural or manmade features
5. Manage operation of the selected system
6. Determine specialized equipment needs for victim movement

Tracking Table

Block	Modification	Justification
RK	Add <i>Describe system safety check protocol</i>	Adding this to each JPR as a critical element
RS	Add <i>Perform system safety checks</i>	Adding this to each JPR as a critical element

3-2: Directing a Team in Operating a Rope Rescue System to Remove a Victim

Authority

1. NFPA 1006 Technical Rescue Personnel Professional Qualifications (2017)
 - Paragraph 5.3.2

Job Performance Requirement

Direct a team in the operation of a rope rescue system to remove a victim suspended from rope or webbing in a high-angle environment, given a victim suspended by a harness attached to anchored rope or webbing, systems for removal of the victim from the rope or webbing, and a means of removal of the victim to the ground or other safe area, so that risks to victims and rescuers are minimized, injury to the victim is minimized, the means of attachment to the rope rescue system is maintained, the victim is removed from the rope or webbing, and the victim is brought to a safe area for transfer to EMS.

Requisite Knowledge

1. *Describe system safety check protocol*
2. *Describe techniques and systems for safe transfer of suspended victims from an existing anchored rope or webbing to a rope rescue system*
3. *Identify various techniques for handling suspended victims*
4. *Describe causes and effects of suspension-induced injuries*

Requisite Skills

1. *Perform system safety checks*
2. Reduce hazards for rescuers and victims
3. Determine condition of the suspended victim
4. Select and construct systems for rapid removal of victims from lanyards or rope or webbing
5. Manage operation of the selected system
6. Determine specialized equipment needs for victim movement

Tracking Table

Block	Modification	Justification
RK	Changed <i>Describe</i> principles of suspension-induced injuries to match the next topic's <i>Describe</i> causes and effects of suspension-induced injuries	Makes more sense and appears to be the same thing.
RK	Add <i>Describe system safety check protocol</i>	Adding this to each JPR as a critical element

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RS	<i>Add Perform system safety checks</i>	Adding this to each JPR as a critical element
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3-3: Performing the Transfer and Movement of a Suspended Victim While Suspended

Authority

1. NFPA 1006 Technical Rescue Personnel Professional Qualifications (2017)
 - Paragraph 5.3.3

Job Performance Requirement

While suspended from a rope rescue system, perform the transfer and movement of a victim suspended from rope or webbing in a high-angle environment to a separate rope rescue lowering or *raising* system, given a rope rescue system, a specified minimum travel distance for the victim, victim transfer systems, and specialized equipment necessary for the environment, so that risks to victims and rescuers are minimized; undesirable victim movement during the transfer is minimized; the means of attachment to the rope rescue system is maintained; the victim is removed from the static line and lowered or raised to a stable surface; victim positioning is managed to reduce adverse effects associated with suspension-induced injuries; selected specialized equipment facilitates efficient victim movement; and the victim can be transported to the local EMS provider.

Requisite Knowledge

1. *Describe system safety check protocol*
2. *Identify task-specific selection criteria for victim transfer systems*
3. *Describe various physical and psychological victim management techniques*
4. *Select PPE*
5. *Identify design characteristics and intended purpose of various transfer systems*
6. *Describe rigging principles*
7. *Describe causes and effects of suspension-induced injuries*
8. *Identify methods to minimize common environmental hazards created in high-angle environments*

Requisite Skills

1. *Perform system safety checks*
2. Reduce hazards for rescuers and victims
3. Choose victim transfer systems, select and use PPE
4. Perform a transfer of the victim from a static line to the lowering or *raising* system
5. Determine specialized equipment needs for victim movement

Tracking Table

Block	Modification	Justification
RK	Changed PPE selection criteria to select PPE	More clear.

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RS	Removed appropriate to the conditions	We don't teach them to do it wrong.
JPR and RS	Replaced "mechanical advantage" with "raising."	Makes more sense.
RK	Add <i>Describe system safety check protocol</i>	Adding this to each JPR as a critical element
RS	Add <i>Perform system safety checks</i>	Adding this to each JPR as a critical element

3-4: Performing the Activities of a Litter Tender

Authority

1. NFPA 1006 Technical Rescue Personnel Professional Qualifications (2017)
 - Paragraph 5.3.4

Job Performance Requirement

Perform the activities of a litter tender in a high-angle lowering or raising operation, given a rope rescue system, a specified minimum travel distance for the *litter and* litter tender, life safety harnesses, litters, bridles, and specialized equipment necessary for the environment, so that risks to victims and rescuers are minimized, the means of attachment to the rope rescue system is secure, and the travel path is negotiated while minimizing risks to equipment or persons.

Requisite Knowledge

1. *Describe system safety check protocol*
2. *Identify* task-specific selection criteria for life safety harnesses
3. *Select* PPE
4. *Describe* variations in litter design and intended purpose
5. *Describe* high-angle litter attachment principles
6. *Describe* techniques and practices for high-angle environments
7. *Describe* common hazards imposed by the various structures and terrain

Requisite Skills

1. *Perform system safety checks*
2. Select and use rescuer harness and PPE for common environments
3. Attach the life safety harness to the rope rescue system
4. Maneuver the litter past obstacles or natural structural features
5. Manage the litter while attached to the rope rescue system
6. *Demonstrate tender's vertical positioning independent of litter during transit*
7. Evaluate surroundings for potential hazards

Tracking Table

Block	Modification	Justification
RK	Changed PPE selection criteria to select PPE	More clear.
RS	<i>Demonstrate tender's vertical positioning independent of litter during transit</i>	To ensure students can position themselves above and below the litter to negotiate obstacles
RK	Add <i>Describe system safety check protocol</i>	Adding this to each JPR as a critical element

Rescue Technician

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RS	<i>Add Perform system safety checks</i>	Adding this to each JPR as a critical element
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3-5: Participating as a Member of a Team in Constructing a Horizontal Rope Rescue System

Authority

1. NFPA 1006 Technical Rescue Personnel Professional Qualifications (2017)
 - Paragraph 5.3.5

Job Performance Requirement

Participate as a member of a team in the construction of a rope rescue system intended to move a suspended rescue load along a horizontal path to avoid an obstacle, given rescue personnel, life safety rope, rope rescue equipment, and a suitable anchor capable of supporting the load, so that personnel assignments are made and clearly communicated; the system constructed can accommodate the load; tension applied within the system will not exceed the rated capacity of any of its components' parts; a system safety check is performed; movement of the load is efficient; and loads can be held in place or moved with minimal effort over the required distance.

Requisite Knowledge

1. *Determine* incident needs as related to operation of a system
2. *Describe* capabilities and limitations of various systems (including capacity ratings)
3. *Describe* methods for limiting excessive force to system components
4. *Evaluate* incident site as related to *hazards* and obstacle negotiation
5. *Describe* rigging principles
6. *Describe* system safety check protocol
7. *Identify* common personnel assignments and duties
8. *Identify* common and critical operational commands
9. *Identify* common problems and ways to minimize these problems during construction

Requisite Skills

1. Determine incident needs as related to construction of a system
2. Evaluate an incident site as related to *hazards* and setup
3. Identify the obstacles or voids to be negotiated
4. Select a system for defined task
5. Perform system safety checks
6. Use rigging principles that will limit excessive force to system components
7. Communicate with personnel

Tracking Table

Block	Modification	Justification
RS	Removed effectively	We don't teach them to do it wrong.
RK	Changed interference concerns to hazards	More clear and all-encompassing, plus common terminology
RS	Changed interference concerns to hazards	More clear and all-encompassing, plus common terminology

3-6: Directing a Team in Operating a Rope Rescue System to Move a Suspended Rescue Load

Authority

1. NFPA 1006 Technical Rescue Personnel Professional Qualifications (2017)
 - Paragraph 5.3.6

Job Performance Requirement

Direct a team in the operation of a rope system to move a suspended rescue load along a horizontal path, given rescue personnel, an established system, a target for the load, a load to be moved, and PPE, so that the movement is controlled; the load is held in place when needed; operating methods do not stress the system to the point of failure; personnel assignments are made; tasks are communicated; and potential problems are identified, communicated, and managed.

Requisite Knowledge

1. *Determine* incident needs as related to the operation of a system
2. *Describe* capabilities and limitations of various systems
3. *Evaluate* incident site as related to *hazards* and obstacle negotiation
4. *Describe* system safety check protocol
5. *Describe* procedures to evaluate system components for compromised integrity
6. *Identify* common personnel assignments and duties
7. *Identify* common and critical operational commands
8. *Identify* common problems and ways to minimize or manage those problems
9. *Describe* ways to increase the efficiency of load movement

Requisite Skills

1. Determine incident needs
2. Select personnel
3. Communicate with personnel
4. Evaluate system components for compromised integrity
5. *Perform* a system safety check
6. Manage movement of the load
7. Evaluate for any potential problems

Tracking Table

Block	Modification	Justification
RS	Changed “complete” to “perform”	Consistency
RS	Removed effectively	We’re teaching it wrong

Rescue Technician

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RK	Changed interference concerns to hazards	More clear and all-encompassing, plus common terminology
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3-7: Climbing and Traversing Using Climbing Aids

Authority

1. NFPA 1006 Technical Rescue Personnel Professional Qualifications (2017)
 - Paragraph 5.3.7

Job Performance Requirement

Climb and traverse natural features or manmade structures that require the use of climbing aids, positioning equipment, or fall prevention systems to prevent the fall or unwanted movement of the rescuer, given *a specified minimum travel distance*, the equipment used by the agency and a task that reflects the anticipated rescue environment, so that the objective is achieved, the rescuer can perform the required task, and fall prevention is maintained.

Requisite Knowledge

1. Describe system safety check protocol
2. Describe application and limitations of climbing, positioning, and fall prevention systems, including horizontal lifelines
3. Describe the fall factor for and risks associated with different systems used by the AHJ
4. Describe equipment used by the AHJ

Requisite Skills

1. Perform system safety checks
2. Climb vertical or near-vertical paths using the surfaces provided by the environment or climbing aids used by the agency
3. Transition horizontally between structural elements and the rescue system
4. Use positioning equipment to support the weight of the rescuer in a vertical or near-vertical environment permitting the rescuer to perform a task

Tracking Table

Block	Modification	Justification
RK	Add <i>Describe system safety check protocol</i>	Adding this to each JPR as a critical element
RS	Add <i>Perform system safety checks</i>	Adding this to each JPR as a critical element
RK	Replaced “equipment commensurate with the organization’s needs” with “used by the AHJ”	More simple and clear
given	Added <i>a specified minimum travel distance</i>	Consistent with the rest of the curriculum
JPR, RKS	Change fall protection to fall prevention	Fall protection implies a standard that the fire service cannot meet.

Rescue Technician

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RK	Added <i>including horizontal lifelines</i>	Cover skills from tower
RS	Added <i>Transition horizontally between structural elements and the rescue system</i>	Cover skills from tower
JPR	Removed ascend and descend	This is redundant, covered by "climb" and "traverse," and it will likely disappear from the next NFPA revision.

3-8: Interacting with a Person in Emotional or Psychological Crisis

Authority

1. NFPA 1006 Technical Rescue Personnel Professional Qualifications (2017)
 - Paragraph 5.3.8

Job Performance Requirement

Interact with a person at height who is in an emotional or psychological crisis, given an environment consistent with the mission of the agency, the policies and procedures of the organization, and a person in a crisis scenario, so that the condition is recognized and communicated to the team, the rescuer is prevented from harm, and the actions of the rescuer do not escalate the incident.

Requisite Knowledge

1. *Describe system safety check protocol*
2. *Describe indicators of a person in emotional crisis*
3. *Identify typical triggers that can cause individuals to become agitated or anxious*
4. *Describe methods of interacting to prevent harm to the rescuer and the subject*
5. *Identify best practices to deescalate incidents involving persons in crisis*
6. *Describe crisis-intervention resources of the AHJ*

Requisite Skills

1. *Perform system safety checks*
2. *Methods of approach that minimize the risk to the rescuer from subjects whose psychological or emotional state is unknown*
3. *Interview techniques that provide insight to the motives and state of mind of the subject*
4. *Communicating and interacting with the subject in a manner that does not escalate the incident*

Tracking Table

Block	Modification	Justification
RK	Add <i>Describe system safety check protocol</i>	Adding this to each JPR as a critical element
RS	Add <i>Perform system safety checks</i>	Adding this to each JPR as a critical element
RK	Add Describe crisis-intervention resources of the AHJ	The most important part is to know what the AHJ's resources and protocols are since this isn't in many training resources.

3-9: Evaluating the Scenario and Constructing Tensioned Anchors

Authority

1. *Office of the State Fire Marshal*

Job Performance Requirement

Evaluate the needs of the scenario and construct a variety of tensioned anchor systems, given a variety of scenarios, a rope rescue system, and a variety of materials from within the AHJ.

Requisite Knowledge

1. *Describe system safety factors, critical angles, and force multipliers for a variety of tensioned anchor systems, such as:*
 - *Pretensioned back ties*
 - *Front-ties*
 - *Focused floating anchors*
2. *Describe types of and uses for a variety of tensioned anchor systems*

Requisite Skills

1. *Construct a variety of tensioned anchors*

Tracking Table

Block	Modification	Justification

3-10: Evaluating a Scenario and Constructing and Employing a High-Directional

Authority

1. *Office of the State Fire Marshal*

Job Performance Requirement

Evaluate the needs of the scenario and construct and employ a natural, structural, or artificial high-directional, given a variety of scenarios, a rope rescue system, and a variety of materials from within the AHJ.

Requisite Knowledge

1. *Describe types of and uses for high-directionals*
2. *Describe forces associated with high-directionals*
3. *Identify the type of high-directional needed for different scenarios*

Requisite Skills

1. *Construct and use a high-directional*

Tracking Table

Block	Modification	Justification